BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

In the Matter of	)	
	)	
PUBLIC UTILITIES COMMISSION	)	Docket No. 2009-0108
	)	
Instituting a Proceeding to Investigate	)	
Proposed Amendments To the Framework	)	
For Integrated Resource Planning.	)	
	)	

HAIKU DESIGN AND ANALYSIS

RESPONSE TO:

COMMENTS ON CLEAN ENERGY SCENARIO PLANNING

BY THE NATIONAL REGULATORY RESEARCH INSTITUTE

AND

CERTIFICATE OF SERVICE

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Carl Freedman, dba Haiku Design and Analysis (HDA) respectfully offers the following response regarding the National Regulatory Research Institute (NRRI) comments titled "Clean Energy Scenario Planning: Thoughts on Creating a Framework" dated November 3, 2009 (NRRI Comments).

HDA offers several brief general comments below. HDA is not prepared to respond to the specific recommendations in the NRRI Comments regarding the steps in defining and applying a scenario planning approach. HDA looks forward to further consideration of these suggestions in crafting recommendations in the Final Statement of Position and Final Proposed Framework.

GENERAL COMMENTS

- HDA strongly concurs with the central theme of the NRRI Comments: that planning for Hawaii's energy resources should more explicitly and methodically consider a broad range of possible scenarios and deliberately address uncertainties.
- The NRRI Comments, perhaps for purposes of clear exposition, seem to overstate the differences between Hawaii's existing integrated resource planning (IRP) process and the proposed scenario planning approach. The NRRI Comments characterize the existing IRP Framework as a one-forecast, least-cost optimization exercise. Scenario planning is cast as a completely new approach that has fundamentally different purposes. NRRI concludes that a scenario planning approach is sufficiently new and different from the existing IRP Framework that crafting a completely new Framework may be necessary.[1]

  The existing IRP Framework approach and the scenario planning approach framed by NRRI, however, have more in common than is implied in the NRRI Comments. First, the existing IRP approach is more comprehensive and sophisticated than NRRI suggests. Second, although not emphasized by NRRI, the suggested scenario planning approach actually requires and includes many features of the existing IRP approach.

  - The existing IRP Framework does not prescribe or encourage planning using single-forecast assumptions. HDA has often argued that the *implementation*

[1] See NRRI Comments at third paragraph of page 1.

of the existing IRP Framework by the HECO Companies' and Citizens Utilities' (predecessor to Kauai Island Utility Cooperative) has in several respects relied excessively on too-narrowly framed assumptions.[2] Even so, the existing IRP Framework and the Hawaii utility implementations of the Framework have been much more circumspect and sophisticated than the single-forecast exercise characterized in the NRRI comments.

- The existing IRP Framework does not prescribe a least-dollar-cost approach and at least attempts to require analysis and attainment of a broad spectrum of planning objectives.
- In practical application, the scenario planning approach, when reduced to the specific assumptions necessary to perform utility economic analysis, is not as different from existing analytical procedures as seemingly suggested in the NRRI Comments. Although the scenarios are framed in broad conceptual terms, they ultimately tend to reduce to sets and ranges of assumptions used conventionally in the economic analyses (levels of sales, peak demand, load shape, new resource feasibility and costs, fuel prices and taxes, operating costs, etc.). The emphasis on explicitly and methodically addressing uncertainty regarding these assumptions is a distinctive feature of the

[2] HDA persistently asserted (both on behalf of the Consumer Advocate and as an individual member of advisory groups) that utility planning assumptions were too "narrow" in several respects, including narrow "jaws" in sales, demand and fuel price forecasts, restrictively framed assumptions regarding independent power projects (regarding both potential new projects and existing contract renewal vs. termination scenarios), restrictive renewable resource development scenarios, consideration of potential carbon taxes, etc.)

recommended scenario planning approach but the scope of the types of pertinent quantified assumptions used in utility economic analysis is not fundamentally different.

- The NRRI Comments seem to refer to the process of optimizing a "least-cost resource mix" as an alternative contrasted to the recommended scenario planning approach.[3] Scenario planning, however, would not supplant any of the fundamental steps in the existing IRP process, including the need to identify planning objectives, perform economic analyses and ultimately cope with the difficult task of weighing, optimizing, or otherwise somehow determining an optimal strategy (or set of strategies). The difference between the approaches seems to be more a matter of emphasis, focus and process steps rather than a matter of completely exclusive alternatives.

- A scenario analysis approach, although not emphasized or required by the existing IRP Framework, is perfectly consistent with an exemplary implementation of the IRP Framework. HDA asserts that scenario planning could be formally implemented and/or required by amendments to the IRP Framework and may not require drafting an entirely new Framework as suggested in the NRRI Comments.[4]

  - In Docket No. 6617, which considered and resulted in the implementation of the existing IRP Framework, a scenario analysis approach was proposed and

[3] See, for example, the table on page 5 of the NRRI Comments.

[4] HDA remains open to either approach (either amending or replacing the existing IRP Framework).

framed to function as an integral part of the structure of the existing IRP approach.[5]

- A "Scenario Analysis Model" was developed to consider an expanded range of scenarios in the analysis of the Hawaii utility IRP plans filed in evidence on behalf of the Consumer Advocate in Dockets Nos. 7257 (HECO IRP Application), 7258 (MECO IRP Application) and 7259 (HELCO IRP Application). The Scenario Analysis Model includes a capacity expansion and production cost model and an analysis framework designed specifically to perform and document multiple analyses based on a matrix of scenario assumptions. The model was used to expand the three-scenario analyses performed by the HECO companies to a multi-scenario analysis with

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[5] See Blue Ocean Preservation Society Final Proposed Framework and Closing Brief in Docket No. 6617 (1991) which states in part:

A resource development plan that is the least cost option for a base case (most likely) forecast may be more expensive than another plan when weighed over a range of possible future scenarios. If the proper analytical tools can be made available, the benefits of choosing a least cost plan on the basis of robustness weighed over the range of possible future scenarios is a very beneficial method of assuring the least expected cost to ratepayers, reduces financial risk to utilities and decreases the patent reliance on single-line, one-scenario energy forecasting.

Resource development plans should be designed to be "robust" (perform well) with respect to the various possible future scenarios which may develop. Any acceptable resource plan should be flexible enough to function well over an appropriate reasonably expected range of future conditions.

Robustness is an attribute of a resource development plan that can be quantified by analyzing the present value of the cost of the plan over a range of the possible future scenarios and determining a weighted average expected cost, (weighted by the probability of each scenario.) Robustness can be verified on a less rigorous basis by testing a proposed plan against the outer range of probable future scenarios to test it for reasonableness under these conditions. ...

[Blue Ocean Preservation Society Closing Brief, pp. 16-17, Docket No. 6617]

quantification of expected costs weighted by several sets of probabilities associated with each of several sets of scenario assumptions.[6]

CONCLUSION

Having argued above (at odds with the NRRI Comments) that a scenario planning approach is not entirely new to Hawaii and may not require scrapping the entire existing IRP Framework to start afresh, HDA reiterates its wholehearted support for NRRI's recommendation for a special new focus on scenario planning, including a substantial broadening of perspective in all aspects of resource planning in Hawaii and a greater emphasis on methodically addressing planning uncertainties.

HDA appreciates and thanks NRRI and David Magnus Boonin for another substantial contribution to Hawaii's rapidly evolving regulatory framework.

[6] See Consumer Advocate's direct testimony CA-T-1 in Docket No. 7257 for a description and application of the Scenario Analysis Model.

CERTIFICATE OF SERVICE

I hereby certify that I have, on November 21, 2009 served a copy of the foregoing HAIKU DESIGN AND ANALYSIS RESPONSE TO COMMENTS ON CLEAN ENERGY SCENARIO PLANNING BY THE NATIONAL REGULATORY RESEARCH INSTITUTE A upon the following entities, by first class mail or by electronic transmission as noted:

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